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THE MAMMALS OF KIMBLE COUNTY, TEXAS

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Kimble County has served as a focal point for many field parties of mammalogists from Texas Tech University and Midwestern State University. The Texas Tech University Center at Junction also has hosted an intersession course in mammalogy in which students were instructed (in addition to regular classroom activities) in methods of obtaining and preparing voucher specimens of mammals. As a result of these activities, many specimens of mammals resident to Kimble County have been deposited in the mammal collections of these two universities. The mammalian fauna of the Edwards Plateau, as a whole, has been poorly reported. Kimble County is centrally located on the Edwards Plateau. The mammalian faunas of Kimble County and the Edwards Plateau have a large percentage of mammals with Chihuahuan Desert affinities, and also many widespread species of mammals (Goetze, 1995). A knowledge of Kimble County's mammalian fauna should be useful to understanding and identifying mammals on the Edwards Plateau of Texas as a whole.

METHODS AND MATERIALS

Collecting of mammals in Kimble County has been conducted over a period of many years from both Texas Tech University and Midwestern State University. In addition, the principal author was involved in collecting activities in Kimble County and the surrounding area in the years 1990 and 1991, as well as the summer of 1993.

Rodents and other small mammals were collected from Kimble County by using Sherman live traps, Museum Special traps, Victor rat traps, and Macabee-type gopher traps. Some larger mammals were collected with Hav-a-hart traps, Conibear traps, and by shooting. Others were salvaged from roadways and other areas of the county. Bats were surveyed by using mist nets and, occasionally, by shooting. All collecting was conducted under permits issued by the Texas Parks and Wildlife Department.

Local land owners were queried concerning the presence of certain species of mammals on their property, and this information was added, as appropriate, to accounts of species in Kimble County. Finally, the mammal collections of Texas Tech University (TTU), Midwestern State University (MWSU), Texas A&M University (TCWC), and Angelo State University (ASNHC) were surveyed for all mammal specimens from Kimble County, Texas. Collection acronyms are given in the *Specimens examined* sections of each species account, except for specimens that are maintained in the Texas Tech University Collection of Recent Vertebrates. A total of 1110 specimens was examined for this project.

DESCRIPTION OF STUDY AREA

Kimble County occupies a central location within the Edwards Plateau of Texas and, because of this, is of special interest to researchers studying various aspects of mammalian distribution and ecology in this geographic region of the state. Following the system proposed by Blair (1950), Kimble County would be included in the Balconian Biotic Province of Texas based upon geology, vegetation, and the distributions of most classes of terrestrial vertebrates. Schmidly

(1984a) combined the Kansan, Balconian, and part of the Texan biotic provinces of Blair (1950) into a single Plains Country region, based upon mammalian distribution patterns in Texas; Kimble County would be included in this region.

The total land-area of Kimble County is 3,300 km^2. Elevation ranges from 448 to 732 m above sea level (Blum, 1982). Two major drainage systems for the county are the James and Llano River system. The North and South Llano rivers meet at Junction, Texas, forming the Llano River proper. The Llano River then flows northeast from Junction to empty into the Colorado River. Numerous smaller streams and creeks drain watersheds from the area, many becoming tributaries to the two major river systems.

Slope varies from nearly level to steep, and terrain from almost flat valleys surrounded by steep, rocky hills to river floodplains and bottom lands. Runoff from rains is rapid because of shallow soil and steep slopes. Soils overlay the Edwards limestone formation, which is of Cretaceous age (Sellards et al., 1932). Most soils on slopes are shallow, rocky, and unsuitable for cultivation purposes. Soils suitable for crop production are adjacent to streams and rivers in the area, or in small valleys between slopes. These deeper soils are mostly clays, clay loams, and sandy loams formed from alluvial deposits (Blum, 1982). Some areas are subject to occasional flooding, so their value as crop producing areas and wildlife habitat is marginal.

Climate for this area of Texas could be described as mild. The average annual rainfall is 63 cm, with a range from 58 cm in the western part of the county to 66 cm in the eastern sections. The annual frost-free period usually is about 219 days. This period extends from approximately 3 April to 8 November each year. Snow and other frozen precipitation occur rarely in Kimble County and are present only for a few days at most. The average annual temperature is 18° C and the highest is 43° C (Blum, 1982).

Natural vegetation in Kimble County may be divided into three major associations. These groups are riparian, valley, and slope vegetation associations. Riparian vegetation is limited in extent within Kimble County. Valley areas are small and many are planted to cereal grains and other crops. Slope associations include vegetation found on rocky hillsides and other elevated areas. Most of the land area in Kimble County may be included in the Valley and Slope associations.

SPECIES ACCOUNTS

The following accounts are based upon specimens of mammals obtained or observed in Kimble County and housed in the mammal collections of universities listed in the methods section. Introduced species are marked with an asterisk. The arrangement of taxa and taxonomic nomenclature follows that of Jones and Jones (1992), except where noted in the text. Short descriptions of each species are given along with habitat preferences and other life history information. Measurements given in text are in millimeters and weights are in grams.

Didelphis virginiana virginiana Kerr
(Virginia opossum)

The opossum occurs throughout Kimble County, often in close association with humans. Opossums are omnivorous in diet and usually are active nocturnally. The preferred habitats of *D. virginiana* are riparian areas and mesic woodland-savannah areas. Female opossums give birth to young in spring months. Nine to 10 young have been recorded per litter from Kimble County specimens.

Specimens examined (27).—10 mi. S, 7 mi. W London, 1; 20 mi. NW Junction (ASNHC), 2; 11 mi. N, 3 mi. W Junction, 1; 6 mi. NE Junction, 1; 0.8 mi. S, 2.7 mi. W Jct. Hwy 377 and 83, 1; TTU Center at Junction, 3; Junction (20 mi. W on I 10), 1; 1 mi. E Junction, 1; 8 mi. E Junction (MWSU), 2; 10 mi. E Junction (MWSU), 3; 0.9 mi. S, 0.4 mi. W Junction, 1; 1 mi. S, 0.7 mi. W Junction, 1; 2 mi. S Junction, 1; 10 mi. SW Junction, 7; 9 mi. S, 7.5 mi. W Junction, 1.

Myotis velifer incautus (J. A. Allen)
(cave myotis)

The cave myotis is an insectivore, and may be observed foraging for insects around trees and buildings. *M. velifer* roosts mostly in caves and is the most abundant species of *Myotis* on the Edwards Plateau. The cave myotis is a year-round resident of the Edwards Plateau region (Manning et al., 1987). *M. velifer* of both sexes have been taken in the months of May, June, July, and September in Kimble County. The

young of *M. velifer* are born in late spring or early summer months. Females commonly give birth to a single offspring, although two young occasionally are produced.

Specimens examined (104).—TTU Center at Junction, 30; Texas Tech field station, Junction, 7; 5 mi. W TTU Center at Junction, 3; 1 mi. S, 0.3 mi. W Junction, 2; 2.2 mi. S, 0.8 mi. E Junction, 11; 5 mi. S TTU Center at Junction, 25; 8 mi. S TTU Center at Junction, 20; 9.5 mi. S, 7 mi. W Junction, 6.

Lasionycteris noctivagans Le Conte (silver-haired bat)

Four silver-haired bats were netted on 17 May 1987 at the South Llano River on the Texas Tech University Center at Junction as they gleaned insects from under the tree canopy (Manning et al., 1987). All four specimens of this seasonal migrant are males. Silver-haired bats utilize trees as roosting sites during the daylight hours and are considered to prefer woodland habitats. Adult females raise one, or possibly two, young per year on the summer range of the species (Schmidly, 1991).

Specimens examined (4).—TTU Center at Junction, 4.

Pipistrellus subflavus subflavus (F. Cuvier) (eastern pipistrelle)

Eastern pipistrelles roost singly or in small groups in caves, mines, rock crevices, tree foliage, and occasionally in buildings (Schmidly, 1991). *P. subflavus* is insectivorous and may be seen foraging among trees or over water. These bats have been collected under a deciduous tree canopy along the South Llano River in Kimble County. Adults of both sexes have been collected in Kimble County in the month of May. Young of this species are born in late spring to mid-summer months; litter size is usually two (Schmidly, 1991).

Specimens examined (8).—TTU Center at Junction, 6; TTU (Junction) (MWSU), 1; 5 mi. S TTU Center at Junction, 1.

Lasiurus borealis borealis (Müller)
(eastern red bat)

Red bats utilize trees for daytime roosts. Barbour and Davis (1969) stated that *L. borealis* usually hangs from the petiole of a leaf, a twig, or a branch. When roosting, the bats resemble dead leaves in trees and are well camouflaged. These bats are insectivorous and often are observed foraging around street lamps and other outdoor lights. Adults of both sexes are present in the month of May in Kimble County. *L. borealis* often emits an audible call when foraging. Preferred habitats in Kimble County are riverine and riparian areas. Based upon recorded reproduction data, pregnant bats of this species carry three or four embryos, with four being the more common number.

Specimens examined (29).—TTU Center at Junction, 15; Texas Tech field station, Junction, 3; 7 mi. E Junction (MWSU), 1; 5 mi. S TTU Center at Junction, 8; 17 mi. SE Junction, 2.

Lasiurus cinereus cinereus (Palisot de Beauvois)
(hoary bat)

Hoary bats are similar in habits and habitat preferences to *L. borealis*. *L. cinereus* roosts in trees and is an opportunistic insectivore. Schmidly (1991) indicated, however, that hoary bats show a strong preference for moths, among other prey items. Hoary bats are strong flyers and are the most widespread bat species of North America (Barbour and Davis, 1969). *L. cinereus* migrates into North America in the early spring. Females appear to migrate prior to males and segregation of sexes occurs throughout most of the hoary bat's range in the United States (Findley and Jones, 1964). However, both sexes of hoary bats have been collected in the month of May in Kimble County. The average number of young per litter appears to be two for hoary bats in Kimble County. Young are born in late spring and early summer months.

Specimens examined (7).—1 mi. S London, 1; 3 mi. N Junction, on Hwy 83, 1; TTU Center at Junction, 5.

Plecotus townsendii pallescens (Miller)
(Townsend's big-eared bat)

Plecotus townsendii most commonly occurs in western desert scrub and pinyon-juniper regions in west Texas. It apparently reaches its eastern distributional limit in Kimble County. These bats roost in caves and are insectivores. When roosting, the large ears frequently are loosely rolled and laid backward over the head (Davis and Schmidly, 1994). A single young is born in late May to early June.

Literature record.—Schmidly, 1991.

Antrozous pallidus pallidus (Le Conte)
(pallid bat)

Pallid bats inhabit rocky outcrop areas and roost in crevices, caves, mine tunnels, beneath rock slabs, and in buildings (Schmidly, 1991). Such rocky outcrops along slopes are common in Kimble County. These bats are insectivorous and have been observed foraging upon the ground for flightless insects and other invertebrates. Some researchers (Davis, 1974; Hoffmeister, 1986) reported capturing these bats in snap traps baited for rodents. Both sexes of pallid bat have been collected in May in Kimble County. Forty-seven of 51 pallid bats taken in May in the Texas Tech University Collection of Mammals are females. Young pallid bats are born in late spring and early summer months. Litter size ranges from one to four young; most commonly two young are born.

Specimens examined (87).—Junction, 1; TTU Center at Junction, 53; Texas Tech field station, 14; 8 mi. E Junction (MWSU), 6; 1 mi. S Junction, 1; 1 mi. S, 0.3 mi. W Junction, 5; 5 mi. S TTU Center at Junction, 6; 17 mi. SE Junction, 1.

Tadarida brasiliensis mexicana (Saussure)
(Brazilian free-tailed bat)

Tadarida brasiliensis is the most common bat on the Edwards Plateau (Manning et al., 1987). The Brazilian free-tailed bat roosts in large numbers in caves in the region. All of the Brazilian free-tailed bats

examined from the month of May in the Texas Tech University Collection of Mammals are males. *T. brasiliensis* females give birth to a single young, with peak birthing occurring from early to mid-June (Schmidly, 1991). The guano from these bats has been used for fertilizer since the nineteenth century (Schmidly, 1991). In addition, the large numbers of these insectivorous bats would negatively impact insect populations in a given area during the summer months.

Specimens examined (24).—TTU Center at Junction, 14; Texas Tech field station, Junction, 1; 8 mi. E Junction (MWSU), 1; 1 mi. S, 0.3 mi. W Junction, 1; 5 mi. S TTU Center at Junction, 6; Crow Ranch, 1.

Dasypus novemcinctus mexicanus Peters
(nine-banded armadillo)

Armadillos occur in varied habitats in Kimble County, ranging from stream and river-side habitats to small, grassy meadows. All permanent habitats must have soil deep enough for the excavation of a burrow. The diet of *D. novemcinctus* consists mostly of insects, but other animal matter is included (Baker, 1943). Armadillos do not hibernate and must seek food all year long. Armadillos are mostly nocturnal, but are occasionally observed during daylight hours. Juvenile armadillos have been taken in Kimble County in the month of May. Litter size is four young, all of the same gender.

Specimens examined (19).—Junction, 2; TTU Center at Junction, 5; Junction Center, 1 mi. S, 1 mi. W Junction (ASNHC), 1; 10 mi. E Junction (MWSU), 2; 1 mi. S, 0.3 mi. W Junction, 1; 1.6 mi. S, 3 mi. W Junction, 1; 2 mi. S Junction, 3; 3 mi. S TTU Center at Junction, 1; 5 mi. S Junction, 1; 5 mi. S TTU Center at Junction, 1; 10 mi. SW Junction, 1.

Sylvilagus floridanus chapmani (J. A. Allen)
(eastern cottontail)

The eastern cottontail inhabits brushy areas in Kimble County and is usually found not far from water in any locality. Its primary activity period is during crepuscular and nocturnal hours, although

cottontails are active diurnally as well. Cottontails feed primarily upon grasses and forbs. Digestion of coarse plant material is aided by the cottontail's coprophagous habits. Females are polyestrous and may produce multiple litters per year. Litters normally range in size from four to eight young.

Specimens examined (27).—7.5 mi. S London (0.9 mi. S jct 385 & FM 1871) (ASNHC), 1; 1 mi. N, 2 mi. E Junction, 1; Junction, 1; TTU Center at Junction, 4; 3 mi. W Junction Municipal Golf Course, 5; 3 mi. E Junction, 2; 5 mi. E Junction, 2; 7 mi. E Junction (MWSU), 2; 1 mi. S Junction, 2; 2 mi. S Junction, 4; 3 mi. S Junction, 1; 5 mi. S TTU Center at Junction, 1; 4 mi. S, 2 mi. E [Segovia], 1.

Lepus californicus merriami Mearns
(black-tailed jackrabbit)

Unlike *S. floridanus*, jackrabbits generally inhabit more open, and often rocky areas in Kimble County. They are herbivorous and coprophagic in dietary habits. Jackrabbits are primarily nocturnal. They may be seen resting in scooped-out forms at the base of shrubs and trees during daylight hours. Because *L. californicus* inhabits open terrain, it relies upon rapid running to escape predators, such as coyotes; speeds up to 40 miles per hour have been recorded (Jones et al., 1983). Four females examined from the month of May carried from two to four embryos.

Specimens examined (10).—12 mi. N, 17 mi. W Junction, 1; TTU Center at Junction, 2; 2 mi. E Junction, 1; 2.5 mi. E Junction, 1; 3 mi. E Junction, 1; 10 mi. SW Junction, 1; 11 mi. S, 2 mi. E Ft. McCavett, 2; 15 mi. SE Junction (Hwy 83), 1.

Spermophilus mexicanus parvidens Mearns
(Mexican ground squirrel)

Mexican ground squirrels are found in grassy valleys, highway rights-of-way, parks, cemeteries, and golf courses throughout Kimble County. Ideal habitat is shortgrass prairie; *S. mexicanus* favors areas that are now mowed and maintained by humans. These squirrels are

herbivorous, but, upon occasion, have been observed feeding upon animal matter (Davis and Schmidly, 1994). The squirrels are most active on warm, calm, sunny days. If conditions are cool and overcast, the squirrels will go into torpor. *S. mexicanus* undergoes partial hibernation through the winter months and becomes active again around the middle of spring. Females examined from the month of May carried from two to 10 embryos, with the most common number being six.

Specimens examined (132).—City Park, London, 1; 3 mi. N, 5.5 mi. E Junction, 1; 12 mi. W Junction (TCWC), 1; Junction, 13; Junction City Park, 6; 1 mi. E Junction, 1; TTU Center at Junction, 74; TTU Center (MWSU), 11; Field Station, Junction, 3; 0.9 mi. S, 0.3 mi. W Junction, 7; Junction Municipal Golf Course, 11; 1.5 mi. S Junction, 1; 3 mi. S, 3.5 mi. E Junction, 1; 1 mi. E Segovia (TCWC). 1.

Spermophilus variegatus buckleyi Slack
(rock squirrel)

Rock squirrels are saxicolous animals; they are found throughout Kimble County on the rocky slopes and hills. These animals have, however, been observed foraging underneath pecan trees at the Texas Tech University Center at Junction at a considerable distance from rocky habitat. They quickly climb up the trees when startled. Rock squirrels are active diurnally. They feed upon a variety of vegetation and insects. Davis and Schmidly (1994) stated that they also are fond of flesh and are known to catch and eat small, wild turkeys and other birds. The young of *S. variegatus* are born in late spring and emerge from burrows from the end of May to mid-August. The number of young in a litter ranges from one to seven with an average of four (Oaks et al., 1987).

Specimens examined (45).—1 mi. N, 2 mi. E Junction, 1; Junction, 1; 20 mi. W Junction on I 10, 1; 12 mi. W Junction (MWSU), 1; 6 mi. W Junction, 1; 5 mi. W Junction (MWSU), 1; 1 mi. E Junction, 1; 1.5 mi. E Junction, 1; TTU Center at Junction, 13; 8 mi. E Junction (MWSU), 9; 10 mi. E Junction (MWSU), 3; 12 mi. E

Junction (MWSU), 3; 0.5 mi. S Junction, 1; 0.75 mi. S, 1 mi. E Junction, 1; 1 mi. S Junction, 2; Golf Course, 1 mi. S Junction, 2; 1 mi. S, 0.8 mi. E Junction, 1; 1 mi. W Junction Municipal Golf Course, 1; 1 mi. S Junction Golf Course, 1; 4 mi. S Junction, 1.

Sciurus niger limitus Baird
(eastern fox squirrel)

The fox squirrel is extremely arboreal in habit. These squirrels are active during daylight hours and may be found in trees along the rivers and other drainage systems in Kimble County. Mottes of live oak and other tree species in the valley systems also are favored habitats of *S. niger*. This species is almost ubiquitous in its distribution in these habitats on the Edwards Plateau, having been introduced in many locations by humans. The fox squirrel's diet includes pecans, acorns, and other vegetation. Arthropods and bird eggs also are included in the diet (Jones et al., 1983). These squirrels are very vocal and often chatter and bark at intruders or disturbances within their territories. Fox squirrels mate in the months of January and February and again in May and June. The average female produces four offspring each year (Davis, 1974).

Specimens examined (50).—12 mi. N, 17 mi. W Junction, 1; 1 mi. N, 2 mi. E Junction, 6; Junction, 8; 5 mi. W Junction, 1; 2.5 mi. E Junction, 1; 7 mi. E Junction (MWSU), 2; 7.5 mi. E Junction, 1; TTU Center at Junction, 3; 8 mi. E Junction (MWSU), 6; 10 mi. E Junction (MWSU), 4; 3 mi. W Junction Municipal Golf Course, 2; 1 mi. S Junction, 4; 1.5 mi. S Junction, 1; 2.2 mi. S, 8 mi. E Junction, 3; 3 mi. S Junction, 3; 4 mi. S, 3 mi. E Segovia, 3; 7 mi. S Segovia (TCWC), 1.

Thomomys bottae confinalis Goldman
(Botta's pocket gopher)

Pocket gophers are limited in their distribution in Kimble County by the presence of suitable soil conditions. Although *T. bottae* is able to utilize shallow, rocky soils, these gophers are found mostly along riparian and riverine areas, in valleys, parks, and areas of cultivated

land in Kimble County. Soils in these areas generally are loam or loamy clays interspersed with gravel (Wilkins, 1991). Pocket gopher distribution in Kimble County and on the Edwards Plateau, as a whole, is extremely patchy (Dalquest and Kilpatrick, 1973). Botta's pocket gopher feeds upon plant materials. Considerable damage may be done to forage crops, such as alfalfa, if many *T. bottae* reside in a field. Gophers lead solitary lives in burrow systems, excepting brief periods of time while mating and while females raise young. Davidow-Henry and Jones (1988) opined that *T. bottae* breeds mostly in the autumn and winter months in Texas. Whether more than one litter is produced per year is at present undetermined. Old females produce litters averaging five young in size (Davis and Schmidly, 1994).

Specimens examined (35).—3 mi. W London (MWSU), 5; 2 mi. W London (MWSU), 1; 1.5 mi. S London, 1; 2 mi. S London, 1; 2.5 mi. SSW London, 3; 3 mi. SSW London, 1; 3 mi. SE London (MWSU), 3; 4 mi. SSW London, 1; 4 mi. SW London (MWSU), 1; 4 mi. SSW London (MWSU), 5; 3 mi. S London (MWSU), 1; 5 mi. SW London (MWSU), 2; 6 mi. SSW London, 1; 11 mi. NE Junction (MWSU), 1; 10 mi. NE Junction (MWSU), 8.

Geomys texensis texensis Smolen, Pitts, and Bickham (llano pocket gopher)

Geomys texensis may be found inhabiting valley areas and fluvial soils at the margins of rivers and streams. These gophers are excluded from stony, shallow soils, which may still be utilized by *T. bottae*. The llano pocket gopher consumes only vegetation in its diet. Food is stored in burrow chambers of gophers for a winter supply when food becomes scarce. *G. texensis* digs burrow systems and tunnels and is solitary in social habits. One litter of young is produced per year. These gophers, because of their fossorial habits, may be active during both diurnal and nocturnal periods.

Literature record.—Smolen et al., 1993.

Perognathus flavus merriami J. A. Allen (silky pocket mouse)

Silky pocket mice usually are found in rocky habitats with interspersed midgrass species such as sideoats grama. They may also be found in grassland valley habitats in Kimble County. During cold periods, these small mice become torpid in their burrows (Findley, 1987). The diet of *P. flavus* consists entirely of seeds of weeds and grasses. The silky pocket mouse obtains the water it needs from its diet and metabolic water that is salvaged from the tissues. Like other heteromyids, *P. flavus* is nocturnally active. Silky pocket mice breed from early spring until late fall. Some females may produce two or more litters annually, ranging in size from three to six young (Schmidly, 1983).

Specimens examined (3).—10 mi. NE Junction, 1; 2.5 mi. S, 1 mi. W London, 1; 6 mi. S, 1 mi. W London, 1.

Chaetodipus hispidus paradoxus (Merriam) (hispid pocket mouse)

The hispid pocket mouse has a widespread distribution throughout Texas and is found in many different habitats. Preferred areas in Kimble County are mesic valley habitats and vegetation associations of watercourses. Foraging is conducted nocturnally and seeds of grasses and weeds appear to be the major food items. A few insects also may be consumed by *C. hispidus*. Seeds seem to be selected rather than simply gathered by random foraging, and the diet of *C. hispidus* is seasonally variable. Burrows usually are plugged during daylight hours. A single *C. hispidus* probably occupies each burrow. *C. hispidus*, like most heteromyid rodents, is unsocial and solitary during most of the year. The hispid pocket mouse probably breeds throughout the year when conditions are favorable (Choate and Jones, 1989). Females are polyestrous; more than one litter may be produced per year. The number of young per litter varies from two to nine with an average of six.

Specimens examined (13).—5 mi. S, 1.5 mi. W London, 3; 5 mi. S, 1 mi. W London, 4; 6 mi. S, 1 mi. W London, 3; 5 mi. SSW Junction (MWSU), 1; Junction (TCWC), 2.

Castor canadensis texensis Bailey
(American beaver)

Beavers are restricted in habitat to areas around permanent water. They build either lodges in small ponds or lakes or burrow into the sides of river and stream banks for shelter (Findley, 1987). Their diet is exclusively plant material, with much bark and cambium of willow (*Salix* sp.) and cottonwood (*Populus deltoides*) trees included. Beavers are mostly active at night, but may be occasionally observed in early morning or late afternoon hours. The social unit is a colony and consists of four to eight related individuals (Findley, 1987).

Specimens examined (4).—8 mi. S Segovia, Moody Ranch (TCWC), 2; TTU Center (South Llano River), Junction, 1; 12 mi. S Junction, S. Llano River (TCWC), 1.

Reithrodontomys montanus griseus Bailey
(plains harvest mouse)

Plains harvest mice prefer grassy and weedy habitats, and the only specimen of record in Kimble County was collected from a highway right-of-way in mixed short grasses and forbs (McAllister and Earle, 1991). The diet of the plains harvest mouse consists mostly of seeds and some vegetation. This species is nocturnally active, like most other murid rodents. Populations appear to be scattered over the Edwards Plateau and densities of this mouse at any single locality seem to be low. Females are polyestrous, and litter sizes range from two to five young.

Specimens examined (1).—6.4 km (4 mi.) SE Junction, 1.

Peromyscus attwateri (J. A. Allen)
(Texas mouse)

The Texas mouse is most often found inhabiting juniper covered slopes in Kimble County. Etheredge et al. (1989) discussed habitat selection between *P. attwateri* and *P. pectoralis* in Tom Green County. When the two species were sympatric, *P. attwateri* utilized trees for

refuge and escape cover more often than *P. pectoralis*. This mouse appears to be highly arboreal and may also forage for berries and nuts while in trees. *P. attwateri*, like all species of *Peromyscus* in Kimble County, is nocturnal. Seeds and insects make up the bulk of this animal's diet. Dalquest and Horner (1984) report that *P. attwateri* readily feeds upon grasshoppers, crickets, and similar arthropods when these are available. The Texas mouse demonstrates seasonal variation in litter sizes with numbers of young ranging from three to six (Schmidly, 1974).

Specimens examined (33).—4 mi. SSW London (MWSU), 1; 5 mi. S, 1.5 mi. W London, 6; 5 mi. S, 1 mi. W London, 4; Junction area, 1; 3 mi. W cemetery, Junction, 1; TTU Center at Junction, 8; 1 mi. E TTU Center at Junction (Holy City), 1; Walter Buck Wildlife Management Area, 2; 2 mi. S Junction, 1; Seismic Hill, Junction, 8.

Peromyscus leucopus texanus (Woodhouse) (white-footed mouse)

The white-footed mouse is associated primarily with level, brushy pasture lands in Kimble County. Where *P. leucopus* and *P. maniculatus* occur together, the white-footed mouse is more frequently trapped around brush and shrubs. *P. maniculatus* inhabits more open patches of habitat. The diet of *P. leucopus* includes seeds, plant leaves and stalks, acorn and pecan nuts, and fungi. Insects, snails, and other invertebrates are eaten occasionally. The white-footed mouse is polyestrous. Three to six young are common litter sizes for *P. leucopus* (Dalquest and Horner, 1984).

Specimens examined (6).—3 mi. W London (MWSU), 2; 5 mi. S, 1 mi. W London, 1; TTU Center at Junction, 3.

Peromyscus maniculatus pallescens J. A. Allen (deer mouse)

Peromyscus maniculatus is most frequently trapped in lowland, grassy valleys and along grassy highway rights-of-way in Kimble County. These mice are nocturnal and reside in burrows and nests

during daylight hours. The deer mouse feeds on vegetation, seeds, insects, and occasionally on other dead mice. There is some evidence that food is stored during the fall (Schmidly, 1983). Deer mice do not hibernate, but may become torpid in cold weather conditions. Most young of *P. maniculatus* are born in spring and summer months. Three to six young usually constitute a litter, with larger numbers possible.

Specimens examined (1).—5.5 mi. S, 1 mi. W London, 1.

Peromyscus pectoralis laceianus Bailey
(white-ankled mouse)

Peromyscus pectoralis is an inhabitant of steep slopes and rocky ledges on the Edwards Plateau and Kimble County. Seeds, lichens, and other fungi make up most of the food items consumed by this species. These mice are nocturnally active and do not hibernate through the winter months. Young of this species may be born throughout the year. Embryo records indicate from three to six young per litter.

Specimens examined (192).—2.5 mi. S, 1 mi. W London, 3; 4 mi. SSW London (MWSU), 3; 5 mi. S, 1 mi. W London, 1; 5 mi. S, 1.5 mi. W London, 3; 5.5 mi. S, 1 mi. W London, 6; 6 mi. S, 1 mi. W London, 1; 5 mi. N Hwy 83, Junction, 2; 6.8 mi. N, 4 mi. W Junction, 1; 6 mi. NE TTU Center at Junction, 1; 0.5 mi. N Hwy 83 (Junction), 12; Junction, 1; Junction (MWSU), 5; Junction (TCWC), 3; TTU Center at Junction, 28; 3 mi. W Junction cemetery, 1; 1 mi. W Junction, 2; 1 mi. E TTU Center at Junction, 1; 3 mi. E Junction, 1; 4 mi. E Junction (MWSU),1; 6 mi. E Junction (MWSU), 5; 7 mi. E Junction (MWSU), 7; 8 mi. E Junction (MWSU), 10; 10 mi. E Junction (MWSU), 22; 12 mi. E Junction (MWSU), 2; 20.8 km NW Harper (ASNHC), 2; 0.5 mi. S Junction, 1; 0.5 mi. S, 0.5 mi. E Junction, 7; 0.9 mi. S, 0.5 mi. W Junction, 2; 1 mi. SE Junction (MWSU), 1; 1.3 mi. S Junction, 1; 1 mi. S Junction, 8; 1 mi. SW Junction, 1; 1 mi. SE Junction, 7; 1 mi. S, 0.5 mi. E Junction, 1; 1.6 mi. S, 3 mi. W Junction, 2; 2 mi. S Junction, 3; 2 mi. SW Junction, 1; Walter Buck Wildlife Management Area, 1; Seismograph Hill, 14; 2.3 mi. SE Junction (MWSU), 5; 3 mi. S, 1 mi. E Junction, 1; 1 mi.

S, 2.5 mi. E Segovia, 2; 5 mi. S Segovia, Moody Ranch (TCWC), 2; 8 mi. S Segovia, Moody Ranch (TCWC), 2; 7 mi. S, 1.3 mi. E Junction, 2; 8 mi. S, 0.2 mi. W Junction, 1; 9 mi. SW Junction, 2; 9 mi. S, 0.2 mi. E Junction, 1.

Sigmodon hispidus texianus (Audubon and Bachman) (hispid cotton rat)

The hispid cotton rat may be found in lush vegetation around rivers and streams, grassy and weedy valleys, overgrown highway rights-of-way, and around cultivated areas in Kimble County. *S. hispidus* is active both diurnally and nocturnally. Runways through rank vegetation are utilized for traveling and foraging in an area. This rat has been known to undergo population explosions, where they become extremely abundant in an area, and then undergo a rapid population decline (Bailey, 1905; Dalquest and Horner, 1984). *S. hispidus* has the potential to occasionally cause considerable damage to cultivated crops and other agricultural enterprises as a result of this type of population cycle. Cotton rats are reproductively active throughout the year. Litter sizes range from one to 15 young (Cameron and Spencer, 1981).

Specimens examined (57).—2.5 mi. S, 1 mi. W London, 3; 4 mi. SSW London (MWSU), 1; 5 mi. S, 2 mi. W London, 1; 5.5 mi. S, 1 mi. W London, 2; 6 mi. N Junction, 3; 6 mi. NW Junction, 1; 5 mi. N, 13.5 mi. E Junction, 10; TTU Center at Junction, 18; 2 mi. E TTU Center at Junction, 1; 3 mi. W Junction cemetery, 1; 3 mi. W Junction Municipal Golf Course, 1; State Park S of TTU Center, 1; 0.5 mi. S Junction, 1; 1 mi. S Junction, 1; 1 mi. S, 1 mi. W Junction, 1; 1 mi. S, 0.2 mi. E Junction, 1; 1 mi. S, 0.8 mi. E Junction, 3; 2 mi. S, 2 mi. W Junction, 5; 2 mi. S, 1 mi. E Junction, 1.

Neotoma albigula albigula Hartley (white-throated woodrat)

Neotoma albigula is an uncommon inhabitant of slopes and other rocky areas in Kimble County. Dens are usually constructed at the bases of boulders or around clefts in a rock face. Cacti, sticks, and other

materials may be added to the house (Finley, 1958). These rats may be located in an area by searching for middens and fecal material, which is usually deposited in a single area in the vicinity of the den. These rodents are nocturnal, and feed upon a variety of vegetation. Cacti, juniper needles, yucca blades, and some grasses are included in the diet. Two young are most common per litter and are born in the summer months (Dalquest and Horner, 1984).

Specimens examined (2).—8 mi. S Segovia, at Moody's Ranch (TCWC), 1;1 mi. S Junction, 1.

Neotoma micropus micropus Baird
(southern plains woodrat)

The southern plains woodrat is found primarily in valley pastures and around watercourses in Kimble County. In an area where *N. albigula* and *N. micropus* are both present, *N. albigula* is most often found in rocky, slope habitats, whereas *N. micropus* resides in the valleys. *N. micropus* is nocturnal in its activities. Large, domed nests are usually constructed at the bases of trees and shrubs. Nest building materials usually are branches (such as mesquite), cactus pads, and, if available, liberal amounts of dried cow and horse manure. Nests are occupied singly, excepting females with young. Breeding seasons vary geographically and one or two litters may be produced annually, depending upon the locality. Litter size usually is two to three young (Braun and Mares, 1989). Where *N. micropus* and rattlesnakes occur together, the woodrats have a considerable resistance to the snake venom.

Specimens examined (7).—6.6 mi. N Junction, 1; 6 mi. NE Junction, 3; TTU Center at Junction, 2; 3 mi. E Junction, 1.

**Mus musculus* Linnaeus
(house mouse)

Mus musculus is common in and around human habitations throughout Kimble County. Feral populations also exist in weedy overgrown areas, such as railroad rights-of-way and old fields. *M. musculus* is nocturnal and will accept a variety of foods in its diet.

Cereal grains and green vegetation are consumed, and also some animal matter and insects, if available. Populations of the house mouse fluctuate through the seasons, and high numbers of *M. musculus* can occur in an area. *M. musculus* breeds throughout the year. The house mouse reaches sexual maturity in five to seven weeks and may produce several litters per year. The number of young per litter is most commonly five to eight, but may be as high as twelve.

Specimens examined (25).—6 mi. NE Junction, 2; Junction, 2; TTU Center at Junction, 11; 0.5 mi. S, 0.5 mi. E Junction, 1; 1 mi. S, 2 mi. W Junction, 1; 1 mi. S, 1 mi. W Junction, 1; 1 mi. S, 0.3 mi. W Junction, 1; 1 mi. S, 0.8 mi. E Junction, 2; 2 mi. S Junction on Hwy 377, 1; Junction (Seismic Hill), 2; 9 mi. S Junction, 1.

Erethizon dorsatum epixanthum Brandt (common porcupine)

Erethizon dorsatum is widespread in Kimble County. Preferred habitats for this species are riparian areas and upland, oak-juniper woodlands. Hollow trees and logs are utilized as dens. In addition, caves and crevices serve as dens on the Edwards Plateau. Often, dens are marked by piles of fecal pellets around the immediate area. Diet varies throughout the year and includes herbaceous vegetation, mistletoe (*Phoradendron* sp.), berries, and the inner bark of a variety of trees (Davis and Schmidly, 1994). *E. dorsatum* is solitary for most of the year. Females are believed to be polyestrous and, if not bred at first heat, cycle again in 25 to 30 days; a single young is usually produced per year (Woods, 1973). *E. dorsatum* is nocturnal. The porcupine forages on the ground and in the boughs of trees.

Specimens examined (1).—7 mi. E Junction (MWSU), 1.

**Myocastor coypus bonariensis* (E. Geoffroy Saint-Hilaire) (nutria)

Nutria are found in rivers, lakes, ponds, and streams in Kimble County. *M. coypus* is adept at moving about on land, but spends most of its time in water, even feeding while floating in water (Lowery, 1974).

Nutria are mostly nocturnal in foraging habit, but may become diurnal during cold periods (Woods et al., 1992). *M. coypus* is a vegetarian and feeds upon a variety of emergent vegetation, and sometimes, upon agricultural crops (Lowery, 1974). Dens are constructed in mud banks along watercourses and ponds. Beds or forms sometimes are constructed beneath overhanging or collapsed vegetation as places to rest, feed, and give birth to young (Schmidly, 1984b). Mean litter size generally is from three to six, with a range of one to 12 (Woods et al., 1992).

Specimens examined (5).—TTU Center at Junction, 4; TTU Field Station (MWSU), 1.

Canis latrans texensis Bailey
(coyote)

The coyote is a habitat generalist and may be found throughout Kimble County. In diet, *C. latrans* is omnivorous and consumes a great deal of vegetable matter and carrion during certain seasons (Bekoff, 1977). Coyotes occasionally hunt in pairs and have been observed running down jackrabbits in relays. Coyotes are primarily nocturnal, but are seen frequently in early morning and late afternoon hours. Females are monestrous and mate once a year, usually in late winter or early spring (Bekoff, 1977). Young coyotes are born in excavated dens and do not emerge from the den until several weeks of age.

Specimens examined (1).—10 mi. SW Junction, 1.

Vulpes vulpes fulva (Desmarest)
(red fox)

The red fox may be found in the oak-juniper upland habitats of Kimble County. These foxes were introduced in the Cross-Timbers region of Texas around 1891 (Bailey, 1905) and subsequently extended their range in east Texas and on the Edwards Plateau. *V. vulpes* is an opportunistic omnivore in its foraging habits. Major food items are rodents, rabbits, wild fruits and berries, and insects. The red fox is most active at night, and often travels down trails, as does *C. latrans*. Females are monestrous and monogamous. The pups are raised

around a den. The family group, including the adult male, remains together until the young are old enough to disperse. Dispersal of young foxes usually occurs in the fall.

Specimens examined (0).—Information obtained from local residents and trappers.

Urocyon cinereoargenteus scottii Mearns (common gray fox)

Gray foxes are animals of forest, woodland, or rocky and brush-covered country. They are found more commonly in the vicinity of rocky slopes and mesquite pastures in Kimble County. *U. cinereoargenteus* is rather omnivorous in diet. Items consumed include birds, rabbits, rodents, fruits and berries, and some cereal grains (Jones et al., 1983). Female gray foxes are monestrous; most reproduce from January to March, or later. Breeding seasons vary geographically for the species (Fritzell and Haroldson, 1982). Dens are utilized by *U. cinereoargenteus*, but unlike the red fox, homes are often located among rocks and boulders. Gray foxes are somewhat arboreal and may take refuge in trees to escape predators and to hunt birds.

Specimens examined (26).—TTU Center at Junction, 1; 3 mi. E Junction (MWSU), 2; 6 mi. E Junction (MWSU), 2; 7 mi. E Junction (MWSU), 6; 8 mi. E Junction (MWSU), 1; 10 mi. E Junction (MWSU), 8; 12 mi. E Junction (MWSU), 5; 15 mi. SW Junction, S. Llano River bottom (TCWC), 1.

Bassariscus astutus flavus Rhoads (ringtail)

The ringtail inhabits rocky, slope habitats throughout Kimble County. Toweill and Teer (1977) conducted a food habits study of *B. astutus* on the Edwards Plateau and found that plant materials make up about 74 percent of this animal's diet. Berries and fruit of Ashe juniper (*Juniperus ashei*), hackberry (*Celtis* sp.), Texas persimmon (*Diospyros texana*), and mistletoe are common plant items in the diet. Chavez-Ramirez and Slack (1993) reported similar food items found

in ringtail feces at Sonora, Texas, which is west of Kimble County. Insects are taken when available and contribute a major proportion to the diet. Birds, rodents, and other small mammals make up about 14 percent of the diet. *B. astutus* is shy and nocturnal in its foraging activity. The ringtail is an excellent climber, and utilizes crevices, hollow trees, rock piles, and even buildings for resting and nesting sites. When foraging, instead of jumping from rock to rock as many other mammals do, the ringtail proceeds by climbing around the rocks. In central Texas, female ringtails appear to come into heat about 1 April (Davis and Schmidly, 1994). Females are monestrous; litter size ranges from one to four young (Poglayen-Neuwall and Toweill, 1988). The young are altricial when born and attain their full size at about 30 weeks of age.

Specimens examined (68).—5 mi. W Junction, 1; 5 mi. E Junction (MWSU), 1; 6 mi. E Junction (MWSU), 2; 7 mi. E Junction (MWSU), 17; 8 mi. E Junction (MWSU), 14; 10 mi. E Junction (MWSU), 22; 12 mi. E Junction (MWSU), 8; 1.6 mi. S, 3 mi. W Junction, 3.

Procyon lotor fuscipes Mearns
(common raccoon)

Raccoons are found throughout the state of Texas (Davis and Schmidly, 1994). Schmidly (1984b) stated, however, that *P. lotor* is seldom found far from water, which has an important influence on its distribution. Raccoons are found throughout Kimble County, but the most favored habitats would be riparian areas, upland wooded areas, and, in many cases, in the vicinity of human habitation. Raccoons are omnivorous in diet consuming crayfish, snails, small fishes, cereal grains and other vegetable matter, frogs, birds, and insects. Most foraging activities are conducted nocturnally. *P. lotor* is solitary in habit; females are monestrous. Raccoons utilize hollow trees and rock ledges as denning sites, and will also use buildings and other animal's burrows if these are vacant. The mating season begins in February and continues through August. The number of young born per litter varies from two to four (Schmidly, 1984b).

Specimens examined (30).—6 mi. N, 18 mi. W Junction, Akers Ranch (ASNHC), 1; 4 mi. N, 4 mi. W Junction, 1; 20 mi. W Junction, 1; TTU Center at Junction, 1; 7 mi. E Junction (MWSU), 1; 8 mi. E

Junction (MWSU), 2; 10 mi. E Junction (MWSU), 14; 12 mi. E Junction (MWSU), 2; 1 mi. S Junction, 1; 2 mi. S Junction, 3; 3 mi. SW Junction, 1; 9 mi. S, 1 mi. E Ft. McCavett, 1; 2 mi. S Telegraph (TCWC), 1.

Mephitis mephitis varians Gray
(striped skunk)

Mephitis mephitis is found throughout Kimble County. Preferred habitats are upland pastures, sparse woodlands, and agricultural areas and fields. *M. mephitis* is the most commonly seen species of skunk in Texas. Most foraging activity is nocturnal, but *M. mephitis* occasionally may be observed moving about during daylight hours. The striped skunk is omnivorous, with insects making up a major percentage of its diet. Other food items include mice, frogs, lizards, fruit, garbage, and some carrion. *M. mephitis* is active year-around, but may den up and sleep, sometimes with other skunks, during extremely cold periods. Females are monestrous and usually breed during February or March (Wade-Smith and Verts, 1982). Old armadillo burrows, abandoned coyote and badger dens, and areas underneath buildings are utilized as denning sites of skunks. Most young are born during the first part of May and litter size ranges from three to nine, with an average of about five (Schmidly, 1984b).

Specimens examined (6).—2.5 mi. N Junction, on Hwy 83, 1; 10 mi. E Junction (MWSU), 2; 6 mi. E Junction (MWSU), 1; 0.5 mi. SE Junction, 1; 2 mi. S Junction, 1.

Conepatus mesoleucus mearnsi Merriam
(common hog-nosed skunk)

Conepatus mesoleucus is found throughout Kimble County, although this species is not as common as the striped skunk. Preferred habitats seem to be rocky, upland areas and slopes, and the more xeric areas of Kimble County. Unlike the striped skunk, hog-nosed skunks are seldom found around human habitations (Schmidly, 1983). Hog-nosed skunks are solitary, except during mating season, and are mostly nocturnally active. Schmidly (1984b) stated that they also may be

observed feeding during the warmest hours of the day in mid-winter. The hog-nosed skunk is omnivorous. Diet items include insects, vegetation, spiders, snails, small mammals, and reptiles. Foraging areas may be identified by the presence of diggings and overturned (rooted up) rocks and other items at localities where the skunks reside (Davis and Schmidly, 1994). Females produce one litter of young per year, with the number of offspring ranging from two to four.

Specimens examined (10).—6 mi. SW London (MWSU), 1; 5 mi. N, 12 mi. E Junction, 1; 6 mi. E Junction (MWSU), 1; 7 mi. E Junction (MWSU), 1; 8 mi. E Junction (MWSU), 3; 10 mi. E Junction (MWSU), 2; 12 mi. E Junction (MWSU), 1.

Felis concolor stanleyana Goldman
(mountain lion)

Mountain lions are rarely reported on the Edwards Plateau, but records are available for several counties (Engstrom and Maxwell, 1988). A single record exists for Kimble County. The specimen of concern was a young male struck by an automobile in May, 1994, about 3 mi. E Junction, Texas. The mountain lion is a secretive mammal most often found in rough, rocky, and secluded habitats. *F. concolor* might also be expected in dense riparian habitats in an area. The diet of mountain lions consists principally of deer, but may include rabbits, raccoons, foxes, prairie dogs, coyotes, rodents, and domestic livestock. Mountain lions may breed at any time of the year, but a peak in breeding activity seems to occur during the summer months; females give birth to one to six kittens (Jones et al., 1983).

Specimens examined (0).—Occurrence based upon information obtained from local game warden (Mr. Gary Dick, personal communication) and Texas Parks and Wildlife biologist (Mr. Jim Perkins, personal communication).

Lynx rufus texensis J. A. Allen (bobcat)

Bobcats are found throughout Kimble County. Preferred habitats are along riparian and wooded areas, rocky slopes, and pasture and field edge areas. *L. rufus* is seldom seen because it is a solitary species with nocturnal foraging habits. Occasionally *L. rufus* is active during diurnal hours. The diet of bobcats consists of rabbits, squirrels, rats and mice, birds and bird eggs, snakes, skunks, small raccoons, insects, and carrion items. Grass also is sometimes eaten. Females are monestrous; breeding peaks in February and March. Young usually are born in the months of April and May, and litter size ranges from one to five.

Specimens examined (2).—7 mi. E Junction (MWSU), 1; 12 mi. E Junction (MWSU), 1.

Odocoileus virginianus texana (Mearns) (white-tailed deer)

White-tailed deer are widespread in Kimble County and on the Edwards Plateau of Texas. These deer occur in varied habitats including riparian areas, wooded uplands, rocky, wooded slopes, and in edge habitats and around cultivated field edges. *O. virginianus* is a common visitor even of towns and has frequently been observed within the city limits of Junction. White-tailed deer are most active during early morning and late afternoon to early evening hours. *O. virginianus* also sometimes feeds during the night and in the middle of the day. Diet items are mainly browse and green vegetation. Acorns, corn, cultivated cereal grains, hay crops, oak mast, and fleshy fungi are included in the diet (Bryant et al., 1981). Females are polyestrous but come into heat only during a narrow range of months. Females remain in estrous for about 24 hours and, if not bred, come into heat again in about 28 days. The major breeding season occurs in the months of October through January. The number of young varies from one to three, with twins being common in middle-aged does under favorable environmental and nutritional conditions.

Specimens examined (9).—6 mi. E Junction (MWSU), 1; 7 mi. E Junction (MWSU), 2; 0.5 mi. SE Junction, 2; 1 mi. S Junction, 1; 1 mi. S Junction (MWSU), 1; 10 mi. SW Junction, 2.

SPECIES OF POSSIBLE OCCURRENCE

No records of occurrence are available for several species of mammals in Kimble County, but, based upon current overall species distributions and older records for the Edwards Plateau region, these species may be predicted to reside in the county and surrounding area. The following is an annotated checklist of the mammals that, although not documented, may occur in Kimble County.

Notiosorex crawfordi (desert shrew).—The desert shrew is tolerant of arid habitats and may be expected to occur in Kimble County. Records of this species exist for Bexar, Kerr, and Medina counties on the Edwards Plateau (Davis and Schmidly, 1994).

Scalopus aquaticus (eastern mole).—Moles have a very patchy distribution on the Edwards Plateau of Texas, where the shallow, rocky soils are unsuitable for burrowing and tunneling activities. Suitable habitats for *S. aquaticus*, if this species occurs in Kimble County, would only be found along the river systems and streams of the area in alluvial soils. The eastern mole has been recorded from adjacent Gillespie and Mason counties (Davis and Schmidly, 1994).

Pipistrellus hesperus (western pipistrelle).—The western pipistrelle may occur in Kimble County, which is at the eastern margin of its known range in Texas. Schmidly (1991) reported a record of *P. hesperus* from Edwards County immediately south of Kimble County. Additional specimens have been reported from Tom Green, Uvalde, and Val Verde counties in Texas (Dowler et al., 1992).

Nycticeius humeralis (evening bat).—The evening bat reaches the western limits of its range in Texas on the Edwards Plateau. This bat may occur in Kimble County and has been reported from Bandera, Kerr, Kinney, Real, San Saba, Tom Green, and Uvalde counties in the region (Schmidly, 1991; Dowler et al., 1992).

Sylvilagus audubonii (desert cottontail).—*S. audubonii* prefers upland, rather arid habitats and would be expected to occupy these areas if it occurs in Kimble County. Davis (1974) reported the desert cottontail from Edwards and Kerr counties south of Kimble County and from Llano, Tom Green, and Val Verde counties on the Edwards Plateau.

Cynomys ludovicianus (black-tailed prairie dog).—The range of *C.*

ludovicianus as recorded by Bailey (1905) extended onto the Edwards Plateau and well into Kimble County. Populations of this species on the Edwards Plateau have been greatly reduced as a result of eradication programs conducted in the early twentieth century.

Reithrodontomys fulvescens (fulvous harvest mouse).—The fulvous harvest mouse prefers grassy, overgrown areas and rank vegetation and would be expected to occur in such habitats in Kimble County. Schmidly (1983) mapped the distribution of this species extending throughout Kimble County. *R. fulvescens* has been reported from Kerr County south of Kimble County and from Hays, Travis, and Val Verde counties on the remainder of the Edwards Plateau of Texas (Davis and Schmidly, 1994; Schmidly, 1983).

Baiomys taylori (pygmy mouse).—Since first reported in South Texas by Oldfield Thomas in 1887, the pygmy mouse has been steadily increasing its range in Texas (Choate et al., 1990). These rodents seem to prefer weedy, overgrown areas and habitats with lush vegetation. *B. taylori* has been reported from Bexar, Kendall, McCulloch, Mason, Travis, and Val Verde counties on the Edwards Plateau (Davis, 1974; Jones et al., 1993).

Onychomys leucogaster (northern grasshopper mouse).—These mice are most commonly found in sandy soils in grasslands, and in brushy habitats. Jones and Jones (1992) stated that the northern grasshopper mouse should occur throughout central Texas. Records exist from Concho, Crockett, Howard, Tom Green, and Val Verde counties (Davis and Schmidly, 1994).

**Rattus norvegicus* (Norway rat).—The Norway rat is associated with humans and may be expected to occur around buildings and other man-made structures in Kimble County. *R. norvegicus* has an ubiquitous distribution in Texas and is believed to occur in all counties of the state (Schmidly, 1983).

**Rattus rattus* (roof rat).—*R. rattus* is found in close association with humans and may be expected to occur in Kimble County, although it has not been captured there during the course of this study. The distribution of this species is similar to *R. norvegicus* as mapped by Schmidly (1983).

Mustela frenata (long-tailed weasel).—Although no specimens of *M. frenata* exist for Kimble County, the distribution of this species as given by Schmidly (1984b) includes Kimble County. Long-tailed

weasels should occur in riparian and upland, wooded habitats in Kimble County. Distributional records from Gillespie and Kerr Counties south and east of Kimble County have been reported, and a record from Val Verde County to the southwest is reported by Davis and Schmidly (1994).

Mustela vison (mink).—The range of *M. vison* as given by Schmidly (1984b) includes Kimble County, although no specimens were taken during this study. Mink primarily occur in mesic riparian and woodland habitats. *M. vison* has been reported from Mason County northeast of Kimble County and from Travis County on the Edwards Plateau (Davis and Schmidly, 1994).

Taxidea taxus (badger).—Badgers are nocturnal and secretive and are rarely observed in most areas. *T. taxus* would be found in upland, wooded habitats and valley habitats in Kimble County. Schmidly (1984b) includes Kimble County in the range of the badger and records exist from Tom Green, Sutton, and Val Verde counties on the Edwards Plateau.

Spilosoma gracilis (western spotted skunk).—*S. gracilis* would be expected to occur in wooded, upland habitats and valley and agricultural areas in Kimble County. Schmidly (1984b) indicated that the western spotted skunk should be found in Kimble County and occurrences are recorded from Kerr, Mason, and Menard counties immediately adjacent to Kimble County (Davis and Schmidly, 1994). Additional distribution records are reported from Bexar, Howard, and Kendall counties on the Edwards Plateau (Davis and Schmidly, 1994; Hollander et al., 1987).

Lutra canadensis (river otter).—The original range of river otters included Kimble County (Schmidly, 1984b), but subsequent settlement and habitat alterations may have eliminated this species from Kimble County.

Tayassu tajacu (collared peccary).—The range of the collared peccary once extended well into Central Texas and included Kimble County (Bailey, 1905). These mammals prefer overgrown, brush choked areas and a few individuals may still wander into Kimble County from the Trans-Pecos and western Edwards Plateau regions. Peccaries have been reported from several counties of the western Edwards Plateau, but are most commonly found in South Texas and the Trans-Pecos (Jones and Jones, 1992).

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